

I claim:

1. A fastener arrangement for attaching one or more flat rectangular solar panels onto a rack
2 ~~of~~ formed of one or more channel members, the channel member having an elongated slot with a
3 pair of inwardly facing flanges defining said slot; said fastener comprising a clip member having
4 a generally T-shaped profile with a stem portion with opposed flat sides and a cap portion at an
5 upper end of the stem member with flanges extending above said opposed flat sides; a threaded
6 fastener member rotatable in said stem portion and extending downward therefrom; and a
7 channel nut adapted to engage the flanges of said channel member, the channel nut having
8 female threads to receive said threaded fastener therein.
- 1 2. The fastener arrangement according to Claim 1 wherein said clip member is injection molded
2 of a sturdy plastic material.
- 1 3. The fastener arrangement according to Claim 1 wherein stem portion has a width sufficient to
2 span across said channel member, and has a lower surface with contoured ends that continue
3 over edges of said channel member.
- 1 4. The fastener arrangement according to Claim 1 further comprising a pair of struts joining said
2 clip member with said channel nut.
- 1 5. The fastener arrangement according to Claim 4 wherein said struts are resilient and
2 deformable to bend when the threaded fastener member is tightened down on said channel nut.
- 1 6. The fastener arrangement according to Claim 4 wherein said struts are frangible member that
2 break when the threaded fastener member is tightened down on said channel nut.
- 1 7. The fastener arrangement according to Claim 4 wherein said clip member, said channel nut,
2 and said struts are unitarily molded.

- 1 8. The fastener arrangement according to Claim 1 wherein said threaded fastener includes a pair
2 of bolts arranged in a pair of holes in said clip member and which are received in respective
3 threaded sockets in said channel nut.
- 1 9. A solar collector arrangement comprising one or more parallel rows of solar panels, each said
2 row including:
3 a rack which comprises at least one elongated channel member, each said channel
4 member having an elongated slot with a pair of inwardly facing flanges defining said slot;
5 a plurality of flat generally rectangular solar panels; and
6 a plurality of fastener arrangements holding said solar panels side by side onto said rack,
7 each said fastener arrangement including a clip member having a generally T-shaped profile with
8 a stem portion with opposed flat sides and a cap portion at an upper end of the stem member with
9 flanges extending above said opposed flat sides for engaging respective edges of said solar
10 panels; a threaded fastener member rotatable in said stem portion and extending downward
11 therefrom; and a channel nut adapted to engage the flanges of said channel member, the channel
12 nut having female threads to receive said threaded fastener therein .
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15 10. A solar collector arrangement according to Claim 9 further comprising strips of glazing
16 material positioned between said solar panels and respective ones of said at least one channel
17 member to provide cushioning and electrical isolation between said solar panels and said channel
18 members.
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21 11. A solar collector arrangement according to Claim 9 further comprising at least one extruded
22 resilient filler gasket disposed between adjacent ones of said solar panels at one or both sides of
23 each of said fastener arrangements.
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25 12. A solar energy collection arrangement according to Claim 11 wherein gasket is made of a

2 rubberlike material.

1 13. A solar energy collection arrangement according to Claim 11 wherein said gasket has a pair
2 of spaced flanges along each of two opposed edges, each pair defining a receptacle for fitting
3 over an edge of a solar panel.

1 14. A solar collector arrangement comprising at least one support beam, an array of rectangular
2 solar panels attached along said support beam, and a plurality of clamps for clamping said
3 rectangular solar panels onto said support beam, each said clamp including an upper clamp
4 portion having a generally T-shaped profile with a central stem and a pair of transverse flanges at
5 upper edges of said central stem; a lower clamp member shaped to clamp against a portion of
6 said support beam to hold the upper clamp member down against said support beam, and adapted
7 to receive at least one threaded fastener member passing through said upper clamp member.

1 15. Solar collector arrangement according to Claim 14, wherein said lower clamp portion has a
2 pair of bolt receiving portions and an arched portion between said bolt receiving portions.

1 16. Solar collector arrangement according to Claim 14, further comprising at least one strip of a
2 glazing material situated on said support beam for cushioning said solar panels.

1 17. A method of installing flat solar panels onto a support formed of one or more elongated
2 support beams, comprising, applying glazing material onto one or the other of the solar panels
3 and support beams; positioning the panels in place on the support beams so that the panels are
4 held by the tape onto the beams; attaching to the support beams, in spaces between adjacent ones
5 of said panels, fastener clips, each said fastener clip including a clip member having a generally
6 T-shaped profile with a stem portion with opposed flat sides and a cap portion at an upper end of
7 the stem member with flanges extending above said opposed flat sides, a threaded fastener
8 member rotatable in said stem portion and extending downward therefrom, and a retainer

9 member adapted to engage a portion of the associated support beam, the retainer member having
10 threads to receive said threaded fastener therein; and rotating said threaded fastener member to
11 clamp said clip member to edges of said adjacent panels on said support beam.

1 18. A method of installing flat solar panels onto a support according to Claim 17, further
2 comprising running electrical wires carrying power from said panels through a wireway formed
3 in said support beams.
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1 19. A method of installing flat solar panels onto a support according to Claim 17, wherein said
2 support beam includes a channel member having one slotted side with a pair of inwardly directed
3 flanges defining a slot therebetween; and said step of attaching said fastener clips includes for
4 each such clip inserting the retainer member thereof through the slot, and by rotating said
5 threaded fastener member drawing said retainer member against said inwardly directed flanges.